

#### 4.3.2.10 Waste Management

This section summarizes the waste management impacts for the construction and operation of a Pu conversion facility. There is no spent nuclear fuel or HLW associated with the operation of the Pu conversion facility. Table 4.3.2.10-1 provides the projected operational waste volumes generated at the sites analyzed as a result of the Pu conversion facility. Facilities that would support the Pu conversion facility would treat and package all generated waste into forms that would enable long-term storage and/or disposal in accordance with the regulatory requirements of RCRA and other applicable statutes. Depending in part on decisions in waste-type-specific RODs for the Waste Management PEIS, wastes could be treated, and depending on the type of waste, disposed of, onsite or at regionalized or centralized DOE sites. For the purposes of analyses only, this PEIS assumes that TRU and mixed TRU waste would be treated onsite to the current planning-basis WIPP WAC, and shipped to WIPP for disposal. This PEIS also assumes that LLW, mixed LLW, hazardous, and nonhazardous waste would be treated and disposed of in accordance with current site practice. The incremental waste volumes generated from the Pu conversion facility and the resultant waste effluent used for the waste impact analysis can be found in Section E.3.2.2. A detailed description of the waste management activities that would be required to support the Pu conversion facility can also be found in Section E.3.2.2.

Construction and operation of a Pu conversion facility would impact existing waste management activities at each of the sites analyzed, increasing the generation of TRU, low-level, mixed, hazardous, and nonhazardous wastes. Waste generated during construction would consist of wastewater, solid nonhazardous, and hazardous wastes. The nonhazardous wastes would be disposed of as part of the construction project by the contractor, and the hazardous wastes would be shipped to commercial RCRA-permitted treatment and disposal facilities. No soil contaminated with hazardous or radioactive constituents is expected to be generated during construction. However, if any is generated, it would be managed in accordance with site practice, and all applicable Federal and State regulations.

**Table 4.3.2.10-1. Estimated Annual Generated Waste Volumes for the Plutonium Conversion Facility<sup>a</sup>**

Category	New Facility (m <sup>3</sup> )	Hanford No Action (m <sup>3</sup> )	NTS No Action (m <sup>3</sup> )	INEL No Action (m <sup>3</sup> )	Pantex No Action (m <sup>3</sup> )	ORR No Action (m <sup>3</sup> )	SRS No Action (m <sup>3</sup> )
<b>Transuranic</b>							
Liquid	3.2 <sup>b</sup>	None	None	None	None	None	None
Solid	278	271	None	3.5	None	119	338
<b>Mixed Transuranic</b>							
Liquid	0	None	None	None	None	None	None
Solid	191	98	None	Included in TRU	None	None	Included in TRU
<b>Low-level</b>							
Liquid	56 <sup>b</sup>	None	Dependent on restoration activities	None	8	2,970	74,000
Solid	1,743	3,390	15,000	7,200	32	7,320	16,400
<b>Mixed low-level</b>							
Liquid	0.04	3,760	None	4	4	87,600	1,330
Solid	191	1,505	50	170	46	432	7,700
<b>Hazardous</b>							
Liquid	2	Included in solid	Included in solid	Included in solid	2	6,460	1,260
Solid	11	560	212	1,200	31	26	15,100

**Table 4.3.2.10-1. Estimated Annual Generated Waste Volumes for the Plutonium Conversion Facility<sup>a</sup>—Continued**

Category	New Facility (m <sup>3</sup> )	Hanford No Action (m <sup>3</sup> )	NTS No Action (m <sup>3</sup> )	INEL No Action (m <sup>3</sup> )	Pantex No Action (m <sup>3</sup> )	ORR No Action (m <sup>3</sup> )	SRS No Action (m <sup>3</sup> )
<b>Nonhazardous (sanitary)</b>							
Liquid	15,000	414,000	Not reported separately, included in solid	Not reported separately, included in solid	141,000	550,000	703,000
Solid	2,060	5,107	2,120	52,000	339	53,100	61,200
<b>Nonhazardous (other)</b>							
Liquid	56	Included in sanitary	Included in sanitary	None	Included in sanitary	650,000	Included in sanitary
Solid	0	Included in sanitary	76,500	Included in sanitary	Included in sanitary	321	Included in sanitary

<sup>a</sup> The No Action volumes are from Tables 4.2.1.10-1, 4.2.2.10-1, 4.2.3.10-1, 4.2.4.10-1, 4.2.5.10-1, and 4.2.6.10-1. Incremental waste generation volumes for Pu conversion are from Table E.3.2.2-1. Waste effluent volumes (that is, after treatment and volume reduction) which are used in the narrative description of the impacts are also provided in Table E.3.2.2-1.

<sup>b</sup> Liquid TRU and LLW would be treated and solidified prior to disposal.

Following treatment and volume reduction, approximately 278 m<sup>3</sup> (364 yd<sup>3</sup>) of TRU waste consisting of solidified liquid TRU waste (such as decontamination solutions, used HEPA filters, contaminated wipes and rags, and glovebox sweepings), would require treatment and repackaging in a radwaste facility to meet the current planning-basis WIPP WAC or alternative treatment level. Hanford, INEL, and SRS have existing and planned TRU waste facilities that could be utilized. Due to their limited capability to process, package, and store TRU waste, a radwaste facility would need to be constructed as part of the Pu conversion facility if sited at Pantex, ORR, or NTS. An estimated 191 m<sup>3</sup> (250 yd<sup>3</sup>) of mixed TRU waste would also require treatment and packaging to meet the current planning-basis WIPP WAC or alternative treatment level. Mixed TRU waste would principally be leaded rubber gloves. To transport the TRU and mixed TRU waste to WIPP (depending on decisions made in the ROD associated with the supplemental EIS for the proposed continued phased development of WIPP for disposal of TRU waste), 54 truck shipments per year or, if applicable, 27 regular train shipments per year or 9 dedicated train shipments per year, would be required.

The Pu conversion facility conceptual design includes a radioactive liquid waste treatment facility which would treat the 56 m<sup>3</sup> (14,800 gal) of liquid LLW from infrequent container decontamination, laboratory solutions, and scrubber solutions from stacks and exhaust systems. After treatment and volume reduction, approximately 1,743 m<sup>3</sup> (2,280 yd<sup>3</sup>) of solid LLW from solidified liquid LLW, packaging materials, HEPA filters, glovebox parts, protective clothing, decontamination materials (swipes, mops), and damaged equipment would require disposal in a DOE LLW disposal facility. Using the land usage factors from Section E.1.4, the area required for LLW disposal would be 0.5 ha/yr (1.3 acres/yr) at Hanford and ORR; 0.3 ha/yr (0.7 acres/yr) at NTS and INEL; and 0.2 ha/yr (0.5 acres/yr) at SRS. With no onsite LLW disposal capability, Pantex would require 105 additional LLW shipments per year to NTS. The ultimate disposal of LLW will be in accordance with the ROD(s) from the Waste Management PEIS.

Approximately 0.04 m<sup>3</sup> (11 gal) of liquid and 191 m<sup>3</sup> (250 yd<sup>3</sup>) of solid mixed LLW, consisting of solvent rags, Pb, and hydraulic fluids which have been contaminated with radioactive constituents, would require treatment to meet the land disposal restrictions of RCRA. Mixed LLW would be managed in accordance with the Tri-Party Agreement for Hanford or the respective site treatment plans that were developed to comply with the *Federal Facility Compliance Act* for the remainder of the sites analyzed.

Liquid hazardous wastes would consist of cleaning solvents, cutting oils, vacuum pump oils, film processing fluids, hydraulic fluids from mechanical equipment, antifreeze solutions, and paint. Liquid hazardous wastes would be treated onsite or collected in DOT-approved containers and shipped offsite to RCRA-permitted treatment and disposal facilities. Solid hazardous wastes would consist of lead packing and wipes contaminated with oils, lubricants, and cleaning solvents. After compaction, solid hazardous wastes would be packaged in DOT-approved containers, treated onsite or offsite and shipped to RCRA-permitted treatment facilities. After treatment the waste would be disposed of offsite in commercial RCRA-permitted disposal facilities. All the sites analyzed would have adequate capacity to stage the 2 m<sup>3</sup> (528 gal) of liquid and 11 m<sup>3</sup> (15 yd<sup>3</sup>) of solid hazardous wastes until sufficient quantity accumulated to warrant shipment to a RCRA-permitted treatment and disposal facility.

Approximately 15,000 m<sup>3</sup> (3,960,000 gal) of liquid nonhazardous sanitary and industrial wastewater, steam plant blowdown, and stormwater runoff would require treatment in accordance with site practice and discharge permits. Construction of sanitary, utility, and process wastewater treatment systems may be required. Approximately 2,060 m<sup>3</sup> (2,700 yd<sup>3</sup>) of solid nonhazardous wastes such as paper, glass, discarded office material, and cafeteria waste that is not recycled or salvageable would be shipped to an onsite or offsite landfill in accordance with site-specific practice.